

Algoflon® S 121

Polytetrafluoroethylene
Solvay Specialty Polymers

Message:

Algoflon® S 121 is a white, granular, free-flowing PTFE powder that is designed for sheet molding and isostatic molding of complex shapes. The material has a large average particle size and high bulk density. Additionally, it shows good powder flow whilst maintaining high mechanical properties due to its soft particles.

Main features of Algoflon® S 121 are:

- Large particle size
- High bulk density
- Good flowability
- Good mechanical properties

General Information	
Features	High tensile strength
	Good liquidity
Uses	Mixing
	Additive
Agency Ratings	FDA 21 CFR 177.1550
Appearance	White
Forms	Powder
Processing Method	Isostatic pressing
	Compression molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	2.17		ASTM D792
Average Particle Size	550	µm	Internal method
Contractility-Radial	2.7	%	ASTM D4894
Volume density	810	g/l	ASTM D4894
Tensile Elongation at Break	340	%	
Tensile Strength	37.0	MPa	ASTM D4894

Additional Information

Processing

Algoflon® S 121 is processed according to methods used for normal and isostatic molding. In particular isostatic molding technology uses hydrostatic pressure on a diaphragm positioned over or around the object to be preformed. Prior to use, the powder must be conditioned above 19°C / 66°F. The molding process involves typically two steps: preforming and sintering. Initially the powder is compacted into a preform. This is then sintered using precise sintering (heating and cooling) cycle to take the temperature above the PTFE crystalline melting point to attain the final article. The preforming pressure, dwell time at maximum sintering temperature and cooling rate are all established according to the shape and size of the final item. Algoflon® S 121 is specially recommended for isostatic molding since it shows good flowability to fill completely complex or narrow molds. Furthermore it provides smooth surface finishing.

Storage and Handling

Algoflon® PTFE free flowing powders must be stored and handled carefully to achieve defect free molding. Preforming is most effective when the powder temperature is uniformly above 19°C / 66°F (between 21-27°C / 70-81°F). Below this temperature the powder is difficult to mold without cracks. Temperatures that are too high should also be avoided to prevent powder lumping and poor flow. Storage and handling facilities should be clean since even very small foreign particles can cause defects in finished products. Keep resin drums closed and clean. Good housekeeping and careful handling are essential.

Safety and Toxicology

Before using Algoflon® PTFE Free Flowing Powders consult the product Material Safety Data Sheet and follow all label directions and handling precautions.

As with all PTFE materials, handling and processing should only be carried out in well ventilated areas. Vapor extractor units should be installed above processing equipment. Fumes must not be inhaled and eye and skin contact ought to be avoided. In case of skin contact, wash with soap and water. In case of eye contact, flush with water immediately and seek medical help.

Do not smoke in areas contaminated with powder, vapor or fumes.

See Material Safety Data Sheet for detailed advice on waste disposal methods.

Packaging

Algoflon® S 121 is packaged in 45 kg nonreturnable drums. Each drum contains one bag liner made of polyethylene resin.

Additional Technical Information

For Material Safety Data Sheet or additional technical information consult your Solvay sales representative or the website:

www.solvayspecialtypolymers.com

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